Mega Pixel
IP Speed Dome Camera
User's Manual

V1.1

Contents

CHAPTER 1 PROFILE 2

1.1 Functions And Characteristics 2

1.2 Applications 3

CHAPTER 2 INSTALLATION 3

2.1 Cautions 3

2.2 Panel Illuminate 4

2.2.1 Rear Elevation 4

CHAPTER 3 PARAMETER SETUP 5

3.1 Setup Parameter By IE Browser 5

Appendix 6

CHAPTER 4 SYSTEM INSTALLATION 7

4.1 Installation 7

4.2 Installation Steps 9

4.3 Disassembly And Installation Of Main Body 11

4.4 Dome Configuration 11

APPENDIX A: 24VAC Wire Diameter And Transmission Distance Comparison Chart 12

APPENDIX B: Wire Gauge Conversion Chart 13

APPENDIX C: Lightning Proof And Surge Signal Proof 14

Chapter 1 Profile

Network Camera is a kind of embedded digital surveillance product collected traditional simulation camera and network video server. Adopts embedded Linux Operation System and has characteristics of high efficiency on system adjustment, solidified code on Flash, small bulk, high stability and high reliability.

1.1 Functions and Characteristics

Basic Function

- Video compression tech: adopts H 264 video compression tech, high compression ratio with super agility handling.
- Network function: integrate TCP/IP protocols and video, alarm, voice data supported, built-in WEB browser, IE interview supported.
- Heartbeat function: host computer is able to know running state of network camera real time by heartbeat function.
- PTZ control function: control for PTZ, kinds of decoder protocols and dome cameras supported.
- Alarm function: 1 channel alarm input (signal parameter), 1 channel alarm output (on-off parameter), motion detective, video lost, mask alarm, alarm link output.
- Voice speech: two-way voice speech, one-way voice broadcast.
- POE power supply supported.
- User management: multi-level user management.

Compression Handling Function

- 1 channel video signal supported, separate hardware compression, adopts H.264 compression standard on video compression, not only support change code ratio, but also support change frame ratio, while setting up video image quality, it's able to restrict compression bit rate of video image.
- PAL:1280*720, NTSC:1280*960 supported
- OSD supported date and time setup available.

Remote interview and transmission function

- One self-compliant 10M/100M Ethernet interface as standard accessory.
- PPPoE, DHCP, DDNS protocol supported.
- Available to set parameter, browse real time video, check network camera state through applications or IE browser. Available to realize alarm link and save compressed bit rate through network.
- Available to realize remote upgrade and maintenance through network.
- RS-485 can support one-way network rendezvous point aisle connection, client side can control serial devices through network rendezvous point aisle of network camera.

1.2 Applications

Suitable for circumstances required for network remote surveillance

- ATM, Bank Counter, Supermarket, Factory etc.
- Nursing House, Kindergarten, School etc.
- Intelligent door management system
- Intelligent Building, community management system
- Electricity station, telecom base station etc. unmanned on duty system
- Outdoor bridge, tunnel, crossing traffic etc. surveillance system
- Flowing line and warehouse surveillance
- 24h surveillance to road traffic
- Remote surveillance to forest, fountain and river etc.

Chapter 2 Installation

2.1 cautions

- Please check carefully while unpacking, be sure articles inside accordance to the list.
- Please read this chapter carefully before installation.
- Be sure to off all concerned power while installation.
- Check power and voltage in case to damage facility because of unmatched voltage.
- Installation circumstance: do not install in circumstances of high humidity or high temperature, please keep good ventilation, pay attention to defend rain, avoid installing in acute vibrate circumstance.
- In times of malfunction, do not attempt to dismantle and service the camera yourself. Please refer to qualified serving personnel to repair or contact our technical department to solve the problems.

Remark: power supply, lens and SD card optional while ex-factory.

2.2 Connections

2.2.1 Cable Connections

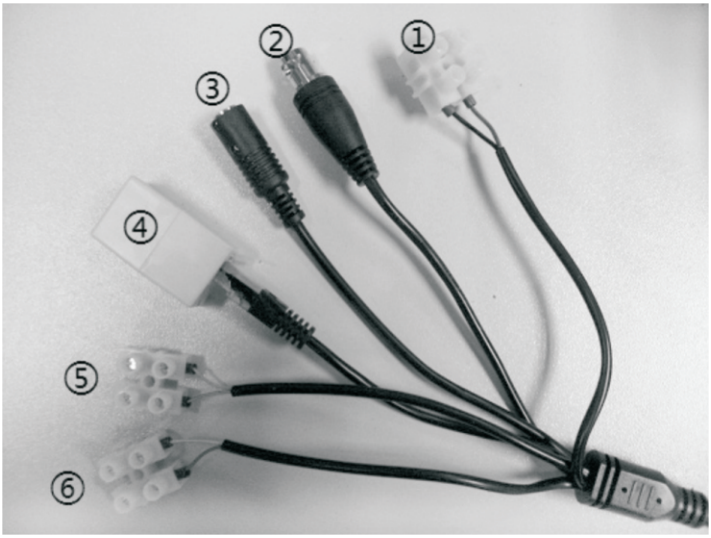
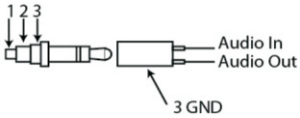


Fig. 2.1 Connection Cable

ID	Cable	Function	Connection
1	Red	AC24V Input	Please refer to the camera parameter
	Black		
2	N/A	Video Output	Connect to video cable of monitor, standard BNC interface
3	N/A	Audio In/Output	3.5mm interface, connect to acoustics device, such as speaker etc for audio speech output(impedance: >16Ω); connect to audio input device, such as tone arm(impedance: 1kΩ) 
4	N/A	Network interface	Connect to Ethernet device, such as Ethernet exchanger, HUB etc.
5	Yellow	RS485＋	Connect to RS-485 device, such as Pan/Tile, PTZ etc.
	Gray	RS485－	
	Blue	Alarm in （DC12V）	Connect to alarm input, 1 channel signal alarm （0~DC12V）
	Pink	Alarm in GND	

Chapter 3 Parameter setup

Some network parameters must be setup firstly after finishing installation, includes IP address, subnet mask, port etc, can be setup through many kinds of ways, see below two kinds for examples:

1. Setup parameters such as IP address and PPPoE etc. through IE browser

2. Setup parameters through applications on client's side.

Please be confirm PC and network camera already be connected, and the network camera can be PING!

3.1 Setup parameter by IE browser
(Microsoft Internet Explorer only)

The default IP:192.168.0.120, **Default port**: 30001, **user:** admin, **password:** admin

Login network camera by IE, input IP address, and will shoot out logging in window, input username and password, click " login " to enter IE client interface.

Function detailed guide please refer to **" Network Video Manager System Manual ".**

Important Note: to check device by IE, the premise is to set browser security level, open IE browser, enter " tool / Internet option / security / user-defined level ", set security level "security level-low ", or directly set " ActiveX, Widget and Insert " to open.

Appendix

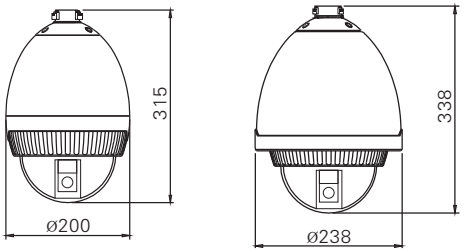
Parameter	10X	18X
Image sensor	1/3" Ex-view 1.3Mega Pixel CCD	
Horizontal Resolution	720TVL(PAL) 810TVL(NTSC)	
Min. illumination	0.1Lux/F1.2 , 0.02Lux/F1.2(Slow shutter)	
S/N Ratio	>50dB	
AGC	Auto	
BLC	Auto	
Electronic Shutter	Auto	
Decoder	Internal	
Panning angle	360º Continuous rotation	
Tilt angle	0º~92º	
Rotary speed	Level 0.1~240º/S, Vertical 0.1~160º/S	
Preset	255	
Digital Zoom	10X	18X
Focal Length(mm)	4.95-49.5mm	4.7-84.6mm
Iris	Auto/Manual	
Focus	Auto/Manual	
Protection level	IP66, 24-hour, safety cover,TVS1500W lightning proof and surge proof	
Video Output	PAL/NTSC, 1.0Vp-p, 75ohm loading, BNC connector	
Video Compression	H.264(ISO/IEC 14496-10) baseline profile to level 3.1	
Picture Resolution	PAL:1280x720p@25fps NTSC:SXGA(1280x960p)@22.5fps.	
Bit Rate	CBR、VBR	
Multi-stream	Up to 2 configurable frame rate/bit rate streams for preview and recording PAL 1280*720 and 640*360 NTSC 1280*960 and 640 * 480	
OSD	Time,DayDevice name,Channel name and user-defined text	
Audio Out/In	One audio out , One audio line in	
Audio compression	G723.1, 8KHz, 16bits	
Audio Bit Rate	6.3Kbps	
Video synchronization	Support	
Bidirectional Talk	Two way audio	
Motion detection	Support	
heartbeat	Support	
Alarm events	I/O and motion detection, Picture upload via email	
User Access Limit	Max of 10 concurrent connected users	
Network Transmission	Auto adaptive flow control technology	
Web Server	Build-in Web Server	
Network Protocol	IPv4/v6, RTP/RTCP, TCP/UDP, HTTP, DHCP, DNS, FTP, DDNS, PPPOE, SMTP	
Network Port	RJ-45,10/100Base-T	
I/O alarm in	One Alarm in(DC5-12V)	

PTZ Control	RS485
SD Card	Support one up to 32GB Micro SD/HC Card
Dependability	Hardware watch Dog
Working Temperature	-10-60℃ Humidity 10-90%
Storing Temperature	-20-70℃ Humidity 0-95%
Power Consumption	Max. 13W
Power Supply	24VAC ±5% , 2500mA
Security	Multi-level user and group management, user access control
CMS Client	Supplied CMS client suitable for IP products (Camera/NVS/PTZ etc)
SDK	Highly documented SDK for be-spoke custom requirements and application development

Chapter 4 System Installation

4.1 Installation

1) Dimension



Indoor Outdoor

Figure 1

2) Installation Style

a Wall Installation

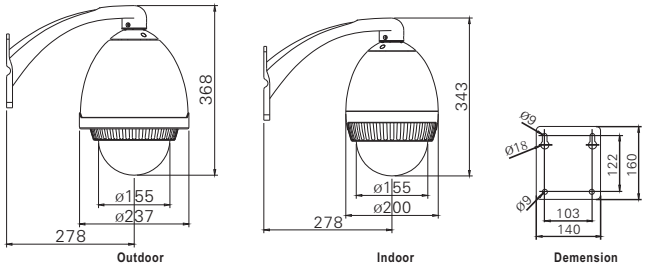


Figure 2

b Pendant Installation

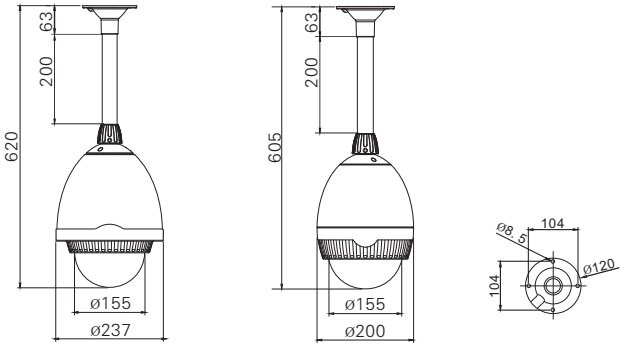


Figure 3

c Ceiling Mounting

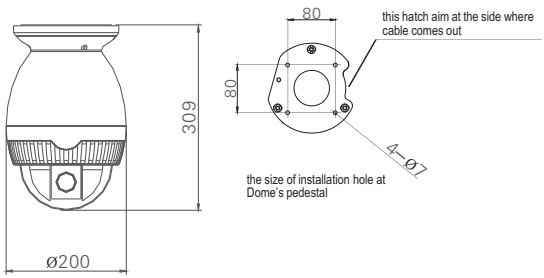
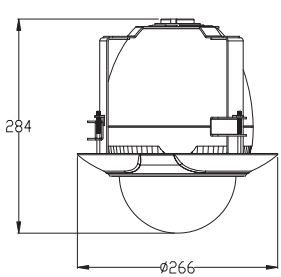
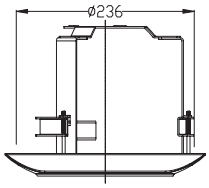


Figure4

d Ceiling mount





Dimension

Embed into a cutout with a diameter slightly larger than 236mm (9.25").

Figure5

4.2 Installation Steps

Taking wall-installation style as example:

1. Unpacking the carton and carefully take out the dome camera and its attachments.
2. According to the size of Dome, drill the installation hole in the wall and fixed expander bolts. (Also can drill hole according to fixed hole of bracket)
3. Rotate the dome cover CCW (counterclockwise) and to remove.
4. Rotate the dome cover CW (clockwise) to install Dome.
5. Fix the bracket on the main body of dome, rotate the Dome CW (clockwise), and keep the bracket hole and the mounting flange in line. Tighten the three screws.
6. Fetch the signal cable, video cable and power wires from bracket. Fix the cover plate, tighten the knurled-screw.
7. Fix the assembled Dome on the wall and tighten the 4PCS of supplied screws.

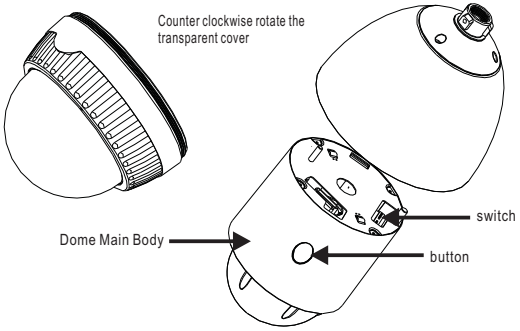


Figure 6

8.Instruction of surface installation:

According to the size of Dome's fixed board, drill the installation hole on the ceiling and fixed expander bolts (Also can drill hole according to fixed hole of fixed board. Fix the fixed board, fix the main body of dome on fixed board along the guide pole, rotate the Dome anticlockwise, and tighten the screws.

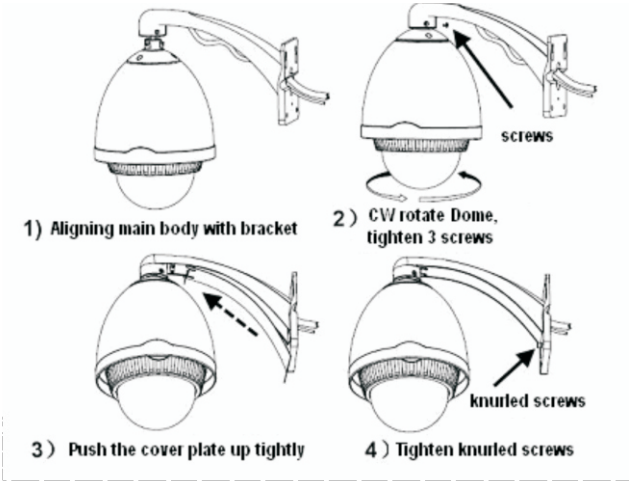
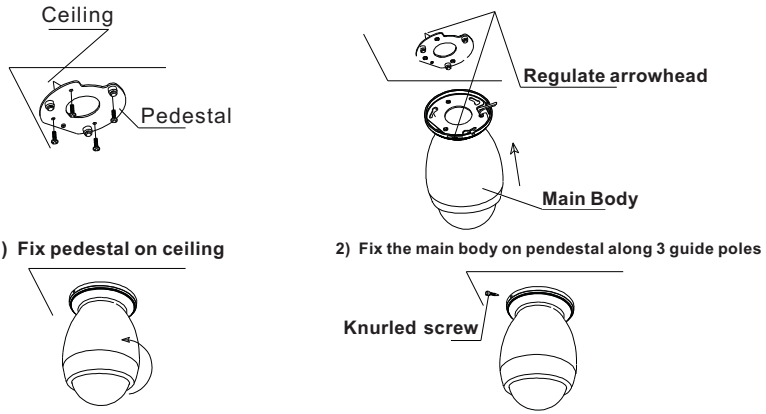

screws
1) Aligning main body with bracket
2) CW rotate Dome, tighten 3 screws
knurled screws
3) Push the cover plate up tightly
4) Tighten knurled screws

Figure 7

Figure 8


Ceiling
Pedestal
Regulate arrowhead
Main Body
1) Fix pedestal on ceiling
2) Fix the main body on pendestal along 3 guide poles
Knurled screw
3) CCW rotate main body at correct location
4) Tighten the knurled screw

4.3 Disassembly and installation of Main Body

1. Quick disassembly design, be easy to maintain and change the main body.
2. Turn vitreous cover on its axis in CCW (counter clockwise) direction and separate it down.
3. Then loosen knurled-screw as shown bellow. Hold the drier shelf, look up the dome, revolve main body CCW (counter clockwise) and fetch it out.
4. The steps of installation are reverse to those of disassembly.

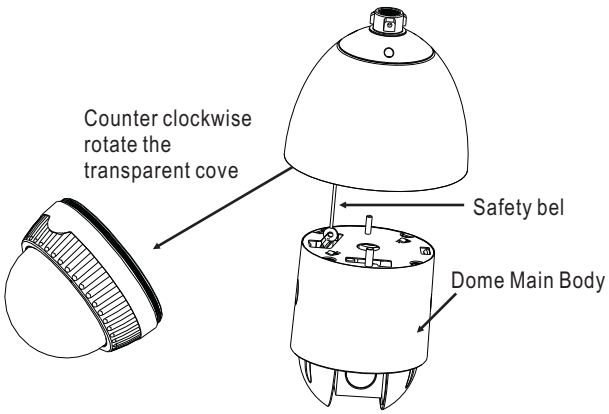


Figure 9

4.4 Dome Configuration.

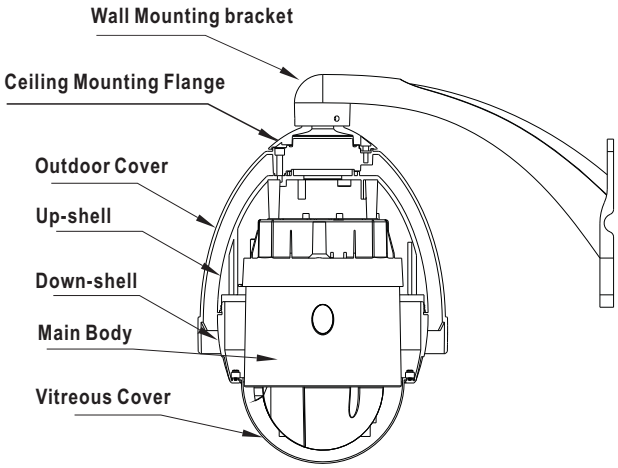


Figure 10

Appendix A: 24VAC Wire Diameter and Transmission Distance Comparison Chart While the wire diameter determinate and 24VAC loss rate under 10%, the longest transmission distance is recommended as following chart.

Wire diameter (mm)

Transmission Distance feet(m) / Power(VA)	0.8000	1.000	1.250	2.000
10	283 (86)	451 (137)	716 (218)	1811 (551)
20	141 (42)	225 (68)	358 (109)	905 (275)
30	94 (28)	150 (45)	238 (72)	603 (183)
40	70 (21)	112 (34)	179 (54)	452 (137)
50	56 (17)	90 (27)	143 (43)	362 (110)
60	47 (14)	75 (22)	119 (36)	301 (91)
70	40 (12)	64 (19)	102 (31)	258 (78)
80	35 (10)	56 (17)	89 (27)	226 (68)
90	31 (9)	50 (15)	79 (24)	201 (61)
100	28 (8)	45 (13)	71 (21)	181 (55)
110	25 (7)	41 (12)	65 (19)	164 (49)
120	23 (7)	37 (11)	59 (17)	150 (45)
130	21 (6)	34 (10)	55 (16)	139 (42)
140	20 (6)	32 (9)	51 (15)	129 (39)
150	18 (5)	30 (9)	47 (14)	120 (36)
160	17 (5)	28 (8)	44 (13)	113 (34)
170	16 (4)	26 (7)	42 (12)	106 (32)
180	15 (4)	25 (7)	39 (11)	100 (30)
190	14 (4)	23 (7)	37 (11)	95 (28)
200	14 (4)	22 (6)	35 (10)	90 (27)

Appendix B: Wire Gauge Conversion Chart

Bare wire diameter metric size (mm)	AWG (Approximate)	SWG (Approximate)	Bare wire cross sectional area (mm^2)
0.050	43	47	0.00196
0.060	42	46	0.00283
0.070	41	45	0.00385
0.080	40	44	0.00503
0.090	39	43	0.00636
0.100	38	42	0.00785
0.110	37	41	0.00950
0.130	36	39	0.01327
0.140	35		0.01539
0.160	34	37	0.02011
0.180	33		0.02545
0.200	32	35	0.03142
0.230	31		0.04115
0.250	30	33	0.04909
0.290	29	31	0.06605
0.330	28	30	0.08553
0.350	27	29	0.09621
0.400	26	28	0.1237
0.450	25		0.1602
0.560	24	24	0.2463
0.600	23	23	0.2827
0.710	22	22	0.3958
0.750	21		0.4417
0.800	20	21	0.5027
0.900	19	20	0.6362
1.000	18	19	0.7854
1.250	16	18	1.2266
1.500	15		1.7665
2.000	12	14	3.1420
2.500			4.9080
3.000			7.0683

Appendix C: Lightning Proof and Surge Signal Proof

The product adopts TVS lightning proof technology to prevent from damage by lightning strike below 1500 W and impulse signals such as surge; but it is also necessary to abide by the following precautions to ensure electrical safety based on practical circumstances:

- Keep the communication cables at least 50 meters away from high voltage equipment or cables.
- Make outdoor cable laying-out under eaves as possible as you can.
  In open area shield cables in steel tube and conduct a single point ground to the tube. Trolley wire is forbidden in such circumstances.
- In strong thunderstorm or high faradic zone (such as high voltage transformer substation), extra strong lightning proof equipment must be installed.
- Take the building lightning proof requirements into account to design the lightning proof and grounding of outdoor equipment and cable laying-out in accordance with the national and industrial standards.
- The system must be grounded with equal potentials. The earth ground connection must satisfy the anti-interference and electrical safety requirements and must not be short connected with high voltage electricity net. When the system is grounded separately, the resistance of down conductor should be ≤ 4Ω and the sectional area of down conductor should be ≤ 25mm² (refer to Figure E.1).